ModelSim® SE Installation and Licensing Guide

Software Version 6.4b

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End-User License Agreement

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Chapter 1
Installation and Licensing

Upgrading to a New Release

When you upgrade to ModelSim v6.4 from v6.3x (or earlier), you will need to regenerate your design libraries after installing the software. For more information, refer to the section Regenerating Your Design Libraries.

Release 6.4 of ModelSim uses version 10.8.5 of FLEXnet. Sites that have existing license servers running an older version must shut down the servers and restart them using the license server (lmgrd) and vendor daemon (mgcld) provided in this release.

Supported Platforms

Table 1-1. Supported Platforms

Platform	OS	Binary	VCO name[1]	Memory capacity
Itanium 2	• Red Hat Enterprise Linux 5 Additional runtime requirement: Separately add the libXp rpm (libXp-1.0.0-8.i386.rpm in RHEL5 Base version)	64-bit	linux_ia64	terabytes
EM64T	• SUSE Linux Enterprise Server 9.0, 9.1, 10 • Red Hat Enterprise Linux 3, 4, 5	32-bit	linux	3GB[2]
		64-bit	linux_x86_64	terabytes
UltraSPARC	• Solaris 8[3], 9, 10 (32-bit only)	32-bit	sunos5	4GB
	• Solaris 8[3], 9, 10 (64-bit capable)	64-bit	sunos5	4GB
		64-bit	sunos5v9	terabytes

Table 1-1. Supported Platforms (cont.)

Platform	OS	Binary	VCO name[1]	Memory capacity
x86	• Windows 2000, XP, and Vista	32-bit	win32	2GB 3GB[4]
	• Red Hat Linux 9.0 • Red Hat Enterprise Linux 3, 4, 5	32-bit	linux, linuxle	3GB[2]
	• Solaris 10 (64-bit capable)	32-bit	sunos5x86	4 GB
		64-bit	sunos5x86_64	terabytes
AMD64	• SUSE Linux Enterprise Server 9.0, 9.1, 10 • Red Hat Enterprise Linux 3, 4, 5	32-bit	linux	3GB[2]
		64-bit[3]	linux_x86_64	terabytes

1. The VCO name refers to the platform directories that are created during installation.
2. Memory usage is limited to the maximum process size allowed by the Linux kernel.
3. ModelSim runs on all UltraSPARC hardware including the Sun Blade platform.
4. The product is now /LARGEADDRESSAWARE by default. This applies to Windows configurations that include the/3GB or /userva boot switches for XP and Vista, respectively.

SystemC Supported Platforms

SystemC runs on a subset of supported platforms, as shown in Table 1-2. Refer to *SystemC Simulation* in the User's Manual for more details.

Table 1-2. Supported Platforms for SystemC

Platform/OS	Supported compiler versions	32-bit support	64-bit support
AMD64 / SUSE Linux Enterprise Server 9.0, 9.1, 10 or Red Hat Enterprise Linux 3, 4, 5	gcc 4.0.2, gcc 4.1.2 VCO is linux (32-bit binary) VCO is linux_x86_64 (64-bit binary) When using the supplied compilers, you should use gcc-4.1.2-suse9 which will work for all supported Linux platforms.	yes	yes
Solaris 8, 9, and 10	gcc 3.3, gcc 4.1.2	yes	no
Solaris 10 on x86	gcc 3.3, gcc 4.1.2	yes	no
Windows 2000, XP, and Vista[1]	Minimalist GNU for Windows (MinGW) gcc 3.3.1, gcc 4.2.1	yes	no

1. SystemC supported on this platform with gcc-4.2.1-mingw32.

For the Windows platform, you must install the compilers manually. The following steps describe how to obtain and install your required compiler.

1. Install the product.

   This installs the base product and the documentation.

2. Navigate to the following site

   ```
   www.model.com/downloads
   ```

   or to the following location on the installation media:

   ```
   CD:/<tool>_install/
   ```

3. Locate the appropriate MinGW .zip file: modelsim-gcc-3.3.1-mingw32.zip for Windows 2000 and XP; modelsim-gcc-4.2.1-mingw32.zip for Windows Vista.

4. Extract the contents of the .zip file to the top level of your install directory.

Discontinued and Retiring Operating Systems

The following is a list of discontinued operating systems and their last-supported ModelSim release. Technical support will answer questions regarding discontinued operating systems, but no patches are available subsequent to the last supported ModelSim release.

Also, please be aware of the operating systems that Mentor Graphics has scheduled to retire. Retiring operating systems will receive patches through the number release indicated.

Table 1-3. Discontinued and Retiring Operating Systems

Operating System	Status	Last supported ModelSim release
Windows 98, ME, and NT 4.0	discontinued	6.1x
Solaris 2.6 and 2.7	discontinued	6.1x
AIX 4.3	discontinued	6.1x
HP 700	discontinued	6.2x
HP-UX 11.0, 11i	discontinued	6.2x
RS6000 / AIX 5.1, 5.2	discontinued	6.2x
RedHat Linux 7.2, 7.3, and 8.0	discontinued	6.3x
RedHat Linux Advanced Workstation 2.1	discontinued	6.3x
RedHat Linux Enterprise version 2.1	discontinued	6.3x
Windows 2000	retiring	6.4x

Table 1-3. Discontinued and Retiring Operating Systems

Operating System	Status	Last supported ModelSim release
Itanium 2 / Red Hat Enterprise Linux 5	retiring	6.4x

Licensing

ModelSim uses FLEXnet licenses which are tied to a workstation or hardware ID (see below for how to locate your ID).

When you purchase ModelSim, Mentor Graphics will generate and e-mail you a license file that you install on either a license server or on the stand-alone system that runs ModelSim.

The following is an abbreviated example of a license file:

```
SERVER server1 117234f39g1m 1650
DAEMON mgcld <install_dir>/win32/mgcld
INCREMENT qhsimvh mgcld 2007.220 4-dec-2007 1 DD35265192B8C3224364
VENDOR_STRING=66E0B055 SN=6264745
SIGN2="1688 0801 FAEC 27CE A6AD 0C2D F9DB C37D 1E9C 7B5A F483 67BE 4F11
2C0C B7FC 135B 50AE 6C20 BE1E A991 2BCC 51BB 756D E2D5 CFB7 C801 FCE7 68F4
A24A A499"
INCREMENT qhsimvlog mgcld 2007.220 4-dec-2007 1 8D05E6017C8E0DE044AB
VENDOR_STRING=1AF05984 SN=6264744
SIGN2="071F 2C8E F935 C771 9C0A 763A CE62 9424 9B00 6810 7C5A E8C5 3BD3
0DF7 9E04 1511 233E 9A52 B8B0 FD65 CFCB 8B30 1384 CF3D 8323 444F 51F0 F6EE
177B 79DC"
```

The installation instructions on subsequent pages tell you how to install the license file. Keep in mind that you should modify the license file only as directed in these instructions. Make sure you do not inadvertently add spaces or line breaks to the file; this may prevent ModelSim from running.

Licensing on Windows Platforms

Note

The Windows directions refer to the Start button. If you are using Windows Vista, you should use the Windows logo in place of the “Start” button.

On Windows platforms the hardware identifier may be either a hardware security key or an Ethernet ID. To determine a security key ID number, check the number printed on the key. To determine the Ethernet ID, select **Start > Run** then Open "cmd" (Windows 2000/XP) to open a command prompt. At the command prompt type:

```
ipconfig -all | more
```

Check the configuration listing for your Ethernet "Physical Address".

Licensing on UNIX Platforms

On UNIX platforms you'll need your workstation ID to obtain a license. Here are the commands that return the ID:

Table 1-4. Determining UNIX Workstation ID

Platform	Syntax	Notes
Linux	/sbin/ifconfig eth0	Look for the line that reads something like this: "Ethernet HWaddr 00:00:00:00:00:00." Remove the colons and you have the required 12-digit ID.
SPARC	hostid	SPARC

Mentor Graphics Licensing on UNIX Platforms

To use this version of ModelSim in a Mentor Graphics environment, you must be running Mentor Graphics Licensing MSL v2007.3 with MGLS v8.5_0.5 and PCLS 2007.291 (or newer) and Packaging Information version v3.0_9.6 (or newer).

To check your current versions, do the following:

1. Make sure the MGLS_HOME environment variable is set to:

   ```
   <install directory>/modeltech/<platform>/mgls
   ```

2. Execute $MGLS_HOME/bin/mgls_admin -v

If you are running a license server with an earlier version, you need to shut down the license server and restart it using the license server (lmgrd) and vendor daemon (mgcld) found in MGLS. Platform-specific MGLS is included in the ModelSim installation at :

```
<install directory>/modeltech/<platform>/mgls
```

In ModelSim, the MGLS_HOME environment variable is set in a non-persistent way inside the simulation environment. If MGLS_HOME is already set, it will be changed temporarily to point at the known good mgls tree while ModelSim is invoked. The persistent setting of MGLS_HOME will not be changed.

The mgcld daemon is automatically installed into the binary directory when you install ModelSim.

Installation

Note

The instructions for Windows refer to the Start button. If you are using Windows Vista, you should use the Windows logo in place of the Start button.

The commands for installing ModelSim are case-sensitive, so you must be enter them exactly as shown. If you are upgrading from a previous release, it is recommended that you install your upgrade in its own directory to avoid overwriting your old files and libraries.

License-Specific Instructions

The following sections describe how to install ModelSim, depending on the license specific to your operating system environment or platform:

- Node-Locked License on a Stand-Alone Windows PC
- Floating License on a Stand-Alone Windows PC
- Windows PC Client (Obtains License from a Server)
- Windows PC License Server
- Stand-Alone UNIX Workstation
- UNIX Client (Obtains License From a Server)
- UNIX License Server

Note

When referring to installation paths, this manual uses the term “modeltech” as a generic representation of the install directory for all versions of ModelSim. The name of the actual install directory on your system may contain additional version identifiers.

Windows Installation Instructions

ModelSim uses Mentor Graphics Install for installation on Windows machines. The main product executable is named:

```
modelsim-win32-<ver>.exe
```

and the gcc compiler is named:

```
modelsim-gcc-3.3.1-mingw32.zip
```

```
modelsim-gcc-4.2.1-mingw32.zip
```

Node-Locked License on a Stand-Alone Windows PC

Use this setup if you are installing on a stand-alone Windows PC with a node-locked license. Node-locked licenses are tied to a hardware key (attached either to the parallel port or a USB port) or system Ethernet ID. Therefore, ModelSim can be run on one system only. A hardware key may be moved from one system to another but ModelSim will run only on the system that has the key attached. In the case of an Ethernet ID, ModelSim can be run only on the system with that specific Ethernet ID.

Note

If you are installing on an Windows machine, make sure you are logged in as "administrator" when running the installation program.

1. If you received a hardware security key (dongle), install it on the parallel or USB port of your PC. Skip this step if you licensed ModelSim to the PC's Ethernet ID.
2. Install ModelSim from the CD or via a downloaded installation executable.
3. Once the software is done installing, you will be prompted to install a hardware security key driver. Choose **Yes** if you installed a security key in step 1; choose **No** if you licensed ModelSim to the PC's Ethernet ID.
4. After installation is complete, save the *license.dat* file to *<install_dir>\win32\license.dat*.

   The license.dat file was attached to the e-mail you received from Mentor Graphics.

   Make sure there are no extra spaces or line breaks in the license file. It must exactly match the license you received by e-mail, including upper and lower case and any backslashes (\).
5. Set the LM_LICENSE_FILE environment variable with the pathname to the license file:
   - For Windows 2000 or XP, right-click the My Computer icon and select Properties, and then select the Advanced tab and then Environment Variables.

     For Windows Vista, right-click the Compter icon and select Properties, then select Advanced System settings and then select Environment Variables.

     Add LM_LICENSE_FILE with a value of *<install_dir>\win32\license.dat*.

     The software does not look for licensing variables in the registry, therefore you must set either LM_LICENSE_FILE or MGLS_LICENSE_FILE environment variable.
6. Reboot your PC.
7. Invoke ModelSim through the Windows Start menu.

Floating License on a Stand-Alone Windows PC

Use this setup if you are installing on a stand-alone Windows PC with a floating license. When stand-alone PCs use a floating license, ModelSim and the license server run on the same system.

1. If you received a hardware security key (dongle), install it on the parallel or USB port of your PC. Skip this step if you licensed ModelSim to the PC's Ethernet ID.
2. Install ModelSim from the CD or via a downloaded installation executable.
3. Once the software is done installing, you will be prompted to install a hardware security key driver. Choose **Yes** if you installed a security key in step 1; choose **No** if you licensed ModelSim to the PC's Ethernet ID.
4. After installation is complete, save the *license.dat* file to *<install_dir>\win32\license.dat*.

   Make sure there are no extra spaces or line breaks in the license file. It must exactly match the license you received by e-mail, including upper and lower case and any backslashes (\).
5. Verify the name of your PC via the Windows Control Panel by System > Computer Name.
6. Open the *license.dat* file and change the server name to the name of your PC. Use a text editor like Notepad rather than a word processor. Word processors may add extra hidden formatting characters to the file and cause problems. Edit the DAEMON line to point to the full path for the mgcld.exe, for example:

   ```
   SERVER server1 123456789123 1717
   DAEMON mgcld C:\<install_dir>\win32\mgcld.exe
   ```
7. Set the LM_LICENSE_FILE environment variable with the port# and hostname:
   - For Windows 2000 and XP, right-click the My Computer icon and select Properties, then select the Advanced tab and then Environment Variables.

     For Windows Vista, right-click the Compter icon and select Properties, then select Advanced System settings and then select Environment Variables.

     Add LM_LICENSE_FILE with a value of 1650@hostname, where hostname is the name of your PC.

     The software does not look for licensing variables in the registry, therefore you must set either LM_LICENSE_FILE or MGLS_LICENSE_FILE environment variable.
8. Reboot your PC.
9. Launch *lmtools.exe* from the *<install_dir>\win32* directory.

10. Choose the Config Services tab and add the pathnames for *lmgrd.exe*, *license.dat*, and *debug.log*. Typical entries might look like this:

    ```
    lmgrd.exe -- <install_dir>\win32\lmgrd.exe
    License file -- <install_dir>\win32\license.dat
    Debug log file -- <install_dir>\win32\debug.log
    ```

    Click **Save Setup** when you finish entering the pathnames.

11. Choose the Start/Stop/Reread tab and click **Start Server**.

12. To verify that the server started, choose the Config Services tab and click **View Log**. Look for two lines similar to the following:

    ```
    14:31:00 (lmgrd) Starting vendor daemons ...
    14:31:00 (lmgrd) Started mgcld (pid 1088)
    ```

    Close lmtools once the server is started.

13. Invoke ModelSim through the Windows Start menu.

Windows PC Client (Obtains License from a Server)

Use this setup if you are installing on a Windows PC that will obtain a license from a Windows PC or UNIX license server.

1. Install ModelSim from the CD or via a downloaded installation executable.
2. Once the software is done installing, you will be prompted to install a hardware security key driver. Choose **No** since you are obtaining the license from a server.
3. Once installation is complete, check with your system administrator for the license server's hostname (the network machine name) and port# (1650 is the default port number).
4. Set the LM_LICENSE_FILE environment variable with the port# and hostname given you by the system administrator.
   - For Windows 2000 and XP, right-click the My Computer icon and select Properties, then select the Advanced tab and then Environment Variables.

     For Windows Vista, right-click the Compter icon and select Properties, then select Advanced System settings and then select Environment Variables.

     Add LM_LICENSE_FILE with the value port#@hostname, reflecting the data given you by your system administrator, such as 1650@server1.

     The software does not look for licensing variables in the registry, therefore you must set either LM_LICENSE_FILE or MGLS_LICENSE_FILE environment variable.
5. Reboot your PC.

6. Make sure the license server is running, then invoke ModelSim through the Windows Start menu.

Windows PC License Server

Use this setup if you are installing a Windows PC license server that checks out licenses to Windows or UNIX clients.

If you already have a FLEXnet installation on the server, you need to install only the mgcld daemon and the license file (contact support@model.com if this is your situation).

1. If you received a hardware security key (dongle), install it on the parallel or USB port of your server. Skip this step if you licensed ModelSim to the server's Ethernet ID.
2. Install ModelSim from the CD or via a downloaded installation executable. You can access the ModelSim installation executable on the web at either of the following:

   ```
   www.model.com/downloads
   ```

3. Once the software is done installing, you will be prompted to install a hardware security key driver. Choose **Yes** if you installed a security key in Step 1; choose **No** if you licensed ModelSim to the server's Ethernet ID.
4. After installation is complete, save the *license.dat* file to *<install_dir>\win32\license.dat*.

   Make sure there are no extra spaces or line breaks in the license file. It must exactly match the license you received by e-mail, including upper and lower case and any backslashes (\).
5. Verify the name of your server via the Windows Control Panel by selecting System > Computer Name.
6. Open the *license.dat* file and change the server name to the name of your server. Use a text editor like Notepad rather than a word processor. Word processors may add extra hidden formatting characters to the file and cause problems. Edit the DAEMON line to point to the full path for the mgcld.exe, for example:

   ```
   SERVER server1 123456789123 1717
   DAEMON mgcld C:\<install_dir>\win32\mgcld.exe
   ```

7. Set the LM_LICENSE_FILE environment variable with the port# and hostname.
   - For Windows 2000 and XP, right-click the My Computer icon and select the Advanced tab and then Environment Variables.

     Add LM_LICENSE_FILE with a value of 1650@hostname, where hostname is the name of your server.

     The software does not look for licensing variables in the registry, therefore you must set either LM_LICENSE_FILE or MGLS_LICENSE_FILE environment variable.

8. Reboot the server.
9. Launch *lmtools.exe* from the *<install_dir>\win32* directory.
10. Choose the Config Services tab and add the pathnames for *lmgrd.exe*, *license.dat*, and *debug.log*. Typical entries might look like this:

    ```
    lmgrd.exe -- <install_dir>\win32\lmgrd.exe
    License file -- <install_dir>\win32\license.dat
    Debug log file -- <install_dir>\win32\debug.log
    ```

    Click **Save Setup** when you finish entering the pathnames.
11. Choose the Start/Stop/Reread tab and click **Start Server**.
12. To verify that the server started, choose the Config Services tab and click **View Log**. Look for two lines similar to the following:

    ```
    14:31:00 (lmgrd) Starting vendor daemons ...
    14:31:00 (lmgrd) Started mgcld (pid 1088)
    ```

    Close lmtools once the server is started.

Troubleshooting Windows PC Server Setup

The **Licensing Wizard** located in the ModelSim program group can help you solve ModelSim licensing problems. Run the wizard on a client machine to check the availability of the license from your PC server.

In addition to running the Licensing Wizard, try the following:

- Open a DOS window and go to the appropriate *<install_dir>\win32* directory. Enter the command:

  ```
  lmutil.exe lmdiag
  ```

  This allows you to verify each feature independently.
- From a DOS window, and the same *win32* directory, enter the following:

  ```
  lmutil.exe lmstat -a
  ```

  This shows you all licenses that are available.
- Go to the *debug.log* inside the *win32* directory. This may provide other information about the source of the license server problems.
- Verify that FLEXnet 10.8.5 was installed on the server. Launch *lmtools.exe* from the *<install_dir>\win32* directory and select **Help > About**.

Uninstalling from a Windows Machine

To remove any or all products installed with the Mentor Graphics Install:

1. From the Start Menu, select **Settings > Control Panel > Add or Remove Programs.**
2. Select **Mentor Graphics Products**. This launches the Install program in Remove mode automatically where you can select the products to remove.
3. Select from:
   - **Sort by Target —** Choose this sort option to list all targets you have installed to.
   - **Sort by Product —** Choose this sort option to list all installed products.
4. Select individual, multiple, or **Select All** products to be removed.
5. Click **Next** to proceed to the Confirm Removal Selection window.
6. Click **Remove**.

   The Install program will prompt you to remove itself after the last product is removed.
7. Click **Done**.

Linux and UNIX Installation Instructions

ModelSim uses the Mentor Graphics Install program for installation on Linux and UNIX platforms.

You will need to acquire, either from the CD or via download, the following files:

- Installler executable— (*install-<platform>*) the executable for the Mentor Graphics Install interface.

  You should acquire the Installer executable specific to the platform from which you will be performing the installation.
- Base install file — (*modelsim-base.mis*) contains the base functionality for all platforms.
- Documentation install file — (*modelsim-doc.mis*) contains the documentation for all platforms.
- Platform-specific install file — (*modelsim-<platform>.mis*) contains installation files specific to the target platform (the platform, to which you are installing).

  You will need to acquire a platform-specific install file for each target platform.
- gcc compiler install file — (*modelsim-gcc-<ver>-<platform>.mis*) contains gcc compilers specific to your target platform.

If you are using SystemC, you will need to acquire a gcc compiler install file for all target platforms.

A complete release contains the Mentor Graphics Install program, the base install file, the platform specific install file(s) for your machine type(s) and the documentation install file.

The Mentor Graphics Install program, the base install file, the documentation install file and all platform specific install files need to be downloaded to the same directory location.

To begin the installation process, execute the Mentor Graphics Install program (install-<platform>) specific to the platform of the machine you are using to perform the installation. Be sure to execute the Mentor Graphics Installer from the same directory as the original download location containing the .mis files.

Use the Mentor Graphics Install program interface to install the tool to the locations required. The Help button at the top of the window provides documentation for using the Install program.

Add the ModelSim executables directory to your PATH environment variable:

PATH=<install_path>/<platform>

where <platform> can be sunos5, sunos5v9, linux, linuxle, linux_ia64, or linux_x86_64.

At this point, the installed directory contains all the base files, the docs files and the platform specific executables. For SystemC, it should also contain gcc executables.

Create a Batch File for Automated Installation

To automate ModelSim installation, you save the settings that you enter when using the Mentor Graphics Install interface. You save these settings to a file, which you can then use as a batch file for installing ModelSim again in the same location.

1. Invoke the Mentor Graphics Install interface (wizard).
2. On the opening page, click Install Products.
3. On the License Agreement page, click Agree.
4. On the Source and Target page, click the Browse buttons to navigate to the source and target locations for the installation.
5. Click Next.
6. On the Product Selection page, select all products that you want to install.
7. Click Next.
8. On the Confirm Selections page, click Save.

9. In the Save dialog box, use the Save in and File Name fields to specify the location and name of a text file that contains your installation settings.
10. The next time you want to run the same installation, run the following in a command shell:

```
install.linux -batch <filename>
```

Stand-Alone UNIX Workstation

Use this setup if you are running ModelSim on a stand-alone UNIX workstation. ModelSim and the license server run on the same system.

1. Run the Install file (*install.*<*platform*>) specific to the platform you are installing from to begin the installation process. This command displays the Mentor Graphics Install wizard shown in Figure 1-1 (refer to "Mentor Graphics Install").
2. Click the icon next to Install Products to initiate the procedure for licensing and installation. This procedure allows you to specify your installation location.

   To display online help for the wizard, click the Help button at the top of the window.
3. After installation is complete, save the *license.dat* file into the <*install_path*>*/modeltech* directory.
4. Open the *license.dat* file and change the server name to the hostname of your workstation.
5. Start the license manager daemon with the following commands:

```
cd <install_path>/<platform>
START_SERVER
```

   where <platform> can be sunos5, sunos5v9, linux, linux_ia64, or linux_rh60.
6. Set the LM_LICENSE_FILE environment variable to the hostname:

```
setenv LM_LICENSE_FILE 1650@hostname
```

7. Add the modeltech executables directory to your PATH:

```
PATH=<install_path>/<platform>
```

   where <platform> can be sunos5, sunos5v9, linux, linuxle, linux_ia64, or linux_x86_64.
8. Enter the following command at the shell prompt to start ModelSim:

```
vsim
```

UNIX Client (Obtains License From a Server)

Use this setup if you are installing on a UNIX system that will obtain a license from a UNIX or PC server.

1. Run the Install file (*install.<platform>*) specific to the platform you are installing from to begin the installation process. This command displays the Mentor Graphics Install wizard shown in Figure 1-1 (refer to "Mentor Graphics Install").
   a. Click the icon next to Install Products to initiate the procedure for licensing and installation. This procedure allows you to specify your installation location.
   b. To display online help for the wizard, click the Help button at the top of the window.
2. Once installation is complete, check with your system administrator for the license server's hostname (the network machine name) and port number (1650 is the default port number).
3. Set the LM_LICENSE_FILE environment variable with the port# and hostname:

   ```
   setenv LM_LICENSE_FILE 1650@hostname
   ```

   where hostname is the name of the license server.
4. Add the modeltech executables directory to your PATH:

   ```
   PATH=<install_path>/<platform>
   ```

   where <platform> can be sunos5, sunos5v9, linux, linuxle, linux_ia64, or linux_x86_64.
5. Make sure the license server is running, then enter the following command at the shell prompt to start ModelSim:

   ```
   vsim
   ```

UNIX License Server

Use this setup if you are installing a UNIX license server that will checkout licenses to clients.

If you already have a FLEXnet installation on the server, you need only install the mgcld daemon and the license file (contact support@model.com if this is your situation).

1. Run the Install file (*install.<platform>*) specific to the platform you are installing from to begin the installation process. This command displays the Mentor Graphics Install wizard shown in Figure 1-1 (refer to "Mentor Graphics Install").
   a. Click the icon next to Install Products to initiate the procedure for licensing and installation. This procedure allows you to specify your installation location.
   b. To display online help for the wizard, click the Help button at the top of the window.

2. After installation is complete, save the *license.dat* file into the *<install_path>/modeltech* directory.
3. Open the *license.dat* file and change the server name to the hostname of your server.
4. Start the license manager daemon with the following commands:

   ```
   cd <install_path>/<platform>
   START_SERVER
   ```

   where <platform> can be sunos5, sunos5v9, linux, linuxle, linux_ia64, or linux_x86_64.
5. Set the LM_LICENSE_FILE environment variable with the port# and hostname:

   ```
   setenv LM_LICENSE_FILE 1650@hostname
   ```

   where hostname is the name of the license server.

Regenerating Your Design Libraries

When you upgrade between number versions (e.g., from 6.3 to 6.4), you must regenerate your design libraries. This is not true for letter versions (e.g., 6.3a to 6.3d).

Regenerating Methods

Explicit Refresh

You can easily regenerate your design libraries with **-refresh**. You must use the **vcom** compiler with the **-refresh** option to update the VHDL design units in a library, and **vlog** with the **-refresh** option to update Verilog design units. By default, the work library is updated; use **-work <library>** to update a different library. For example, if you have a library named **mylib** that contains both VHDL and Verilog design units you would use both of these commands:

```
vcom -work mylib -refresh
vlog -work mylib -refresh
```

Rebuild Libraries Without Source Code

An important feature of **-refresh** is that it rebuilds the library image without using source code. This means that models delivered as compiled libraries without source code can be rebuilt for a specific release of ModelSim. In general, this works for moving forwards or backwards on a release. Moving backwards on a release may not work if the models used compiler switches or directives (Verilog only) that do not exist in the older release or if a bug was fixed that makes it impossible to do a “backwards” refresh.

Note

You **don't** need to regenerate the std, ieee, modelsim_lib, vital, and verilog libraries as these are provided with each release of ModelSim. However, if you have your own copies of these libraries, you will need to refresh them.

AutoRefreshing

ModelSim 6.4 library files can be used by any 6.4 simulator type with the help of AutoRefresh. AutoRefresh works during simulation loading to build the library files needed by the current simulator type.

AutoRefresh builds only the files needed by the loading simulation, and then only refreshes files for design units that have changed, leaving the rest of the library files untouched.

The Binary Details

AutoRefresh regenerates the binaries for PE/LE (.psm), SE (.asm), and SE/64-bit (.asm64) that are stored in the ModelSim libraries.

For example, if a module is changed and recompiled on PE/LE, the next time an SE simulator tries to use that library, ModelSim automatically regenerates the necessary .asm files.

One library can contain the code for both formats. For example, for each design unit in a "work" library, there can be an SE and PE/LE version co-existing. In fact if you run a PE/LE-compiled design on SE, it will auto-refresh itself when you invoke **vsim**. The library format that SE needs is generated "on the fly" from the PE/LE format. After that point, both formats exist in the library and no more format conversion will occur.

Why two different formats? The SE compiler has several performance optimizations that aren't in the PE/LE compiler. Consequently, the generated code for SE has to be different.

Library Compatibility Between Versions

Libraries are compatible between different letter versions of the tool as long as the version number is the same. For example, 6.3 libraries are compatible with 6.3a, but not 6.2d.

Library Notes

Pre-compiled versions of some non-standard libraries and packages are no longer provided. The ARITHMETIC library, which contained a package for doing signed and unsigned vector arithmetic, is no longer included.

The packages NUMERIC_EXTRA, NUMERIC_SIGNED, NUMERIC_UNSIGNED, and STD_LOGIC_1164_EXTENSIONS, all from the IEEE library, are no longer included.

Technical Support

Visit the following web sites for support, software updates, and many other information sources.

Support

Online and e-mail technical support options, and links to international support contacts:

`www.model.com/support/default.asp`

Updates

Access to the most current:

`www.model.com/downloads`

Latest Version E-mail

Place your name on our list for e-mail notification of news and updates.

`www.model.com/products/informant.asp`

FLEXnet Licenses

ModelSim uses Macrovision's FLEXnet license manager and files. Macrovision FLEXnet license files contain lines that can be referred to by the word that appears first on the line. Each kind of line has a specific purpose and there are many more kinds of lines that MTI does not use.

This version of ModelSim uses version 10.8.5 of FLEXnet. Sites that have existing license servers running an older version must shut down the servers and restart them using the license server (lmgrd) and vendor daemon (mgcld) provided in this release.

License Transfers and Server Changes

There is a charge for server changes or license transfers. For details, please contact your local Mentor Graphics sales office.

License Server Versions

The following table lists the FLEXnet version that should be used with each version of ModelSim. Using an outdated version of the FLEXlm software may produce errors.

Table 1-5. License Server Versions Supported for ModelSim

ModelSim Release Number	FLEXnet Version
6.4	FLEXnet 10.8.5
6.3g, 6.3f, 6.3e, 6.3d, 6.3c, 6.3b, 6.3a, 6.3, 6.2h, 6.2g, 6.2f, 6.2e, 6.2d, 6.2c, 6.2b, 6.2a, 6.2, 6.1h	FLEXnet 10.8
6.1, 6.1a, 6.1g, 6.1f, 6.1e, 6.1d, 6.1c, 6.1b	FLEXlm 9.5
6.0, 6.0a, 6.0b, 6.0c, 6.0d, 6.0e	FLEXlm 8.2
5.8b, 5.8c, 5.8d, 5.8e	FLEXlm 8.2

Where to Obtain Your License

See http://www.mentor.com/supportnet/licenses for details.

Troubleshooting Common Licensing Problems

- What licenses are needed for mixed language simulation?

  To simulate a mixed language design, two licenses are required. The msimhdlmix and msimhdlsim licenses together or TWO msimhdlsim licenses will allow mixed language simulation. With just one msimhdlsim license, only one language at a time can be used.

- What can I do if get an error message that states that the encryption code has been modified?

  The most likely causes and solutions for this error are the following:

  - Extra space characters at the end of the line: Remove these characters.
  - Invalid characters added to the end of the line: Remove these characters.
  - Incorrect split in the line: Rejoin the lines.

  Solution: If the original version of the license file is available (in an e-mail archive or elsewhere), compare the modified license file to the original file.

  If extra SERVER lines were added, this also throws off the decryption of the license. You should remove those extra SERVER lines and restart the server. If you cannot remove the lines, contact your account manager to request a license file transfer.

If You Have Additional Problems With Licensing

Contact your normal technical support channel. See www.model.com/support/default.asp for details.

Maintenance Renewals and Licenses

When maintenance is renewed, a new license file that incorporates the new maintenance expiration date will be sent to you automatically. If maintenance is not renewed, the current license file will still permit the use of software versions built before maintenance expired until the stop date is reached.

Exact Access Dates

This section lists the exact access date for each version of ModelSim released since v5.8b. Exact access dates are used to determine which released version of the product you can access. If the exact access date in your authcode is earlier than that of the product, then you will not be able to use that release.

Table 1-6. Exact Access Dates for ModelSim Releases

ModelSim Release	Exact Access Date (year.month)
6.4	2008.06
6.3h	2008.07
6.3g	2008.04
6.3f	2008.03
6.3e	2008.02
6.3d	2007.11
6.3c	2007.09
6.3b	2007.08
6.3a	2007.06
6.3	2007.05
6.2k	2007.12
6.2j	2007.10
6.2i	2007.07
6.2h	2007.05
6.2g	2007.02

Table 1-6. Exact Access Dates for ModelSim Releases (cont.)

ModelSim Release	Exact Access Date (year.month)
6.2f	2007.01
6.2e	2006.11
6.2d	2006.10
6.2c	2006.08
6.2b	2006.08
6.2a	2006.06
6.2	2006.04
6.1h	2007.05
6.1g	2006.08
6.1f	2006.05
6.1e	2006.03
6.1d	2006.01
6.1c	2005.11
6.1b	2005.09
6.1a	2005.07
6.1	2005.06
6.0e	2005.06
6.0d	2005.03
6.0c	2005.02
6.0b	2004.11
6.0a	2004.09
5.8e	2004.09
6.0	2004.07
5.8d	2004.06
5.8c	2004.03
5.8b	2004.01

License File Examples

A node-locked *license.dat* file for FLEXid keys:

```
INCREMENT qhsimvh mgcld 2007.220 12-dec-2007 0 BD8652099FD3BC2ACF0D
VENDOR_STRING=520BC0CA HOSTID=FLEXID=9-542226d9 SN=7188197 SIGN2="1A00
B1E7 4D54 9232 BC8E D685 6FCD 3B8D 5E00 BBE8 AF51 BB4A 59C4 7551 AACA
0B41 8048 87DD CB3B A72E B1A3 36F6 FE9C 096C 51F3 6BA4 6C01 8E19 765A
F9FB"
INCREMENT qhsimvl mgcld 2007.220 12-dec-2007 0 3D968239F07091363556
VENDOR_STRING=E9EF2145 HOSTID=FLEXID=9-542226d9 SN=7188196 SIGN2="07D1
C7CE 2E0B 0639 AAF5 9A1A 3C8C 542D 298F D2A6 13D3 7FB0 8C26 6D31 B906
1A92 1CE4 83F8 2178 DC4A 7D31 184C 8439 3E3A 8337 BCB5 273A B0D2 4C2A
DA3E"
```

A floating *license.dat* file:

```
SERVER server1 00065B4213F2 1717
DAEMON mgcld C:\Modeltech_6.3\win32\mgcld.exe
INCREMENT qhsimvh mgcld 2007.220 4-dec-2007 1 DD35265192B8C3224364
VENDOR_STRING=66E0B055 SN=6264745 SIGN2="1688 0801 FAEC 27CE A6AD 0C2D
F9DB C37D 1E9C 7B5A F483 67BE 4F11 2C0C B7FC 135B 50AE 6C20 BE1E A991 2BCC
51BB 756D E2D5 CFB7 C801 FCE7 68F4 A24A A499"
INCREMENT qhsimvlog mgcld 2007.220 4-dec-2007 1 8D05E6017C8E0DE044AB
VENDOR_STRING=1AF05984 SN=6264744 SIGN2="071F 2C8E F935 C771 9C0A 763A
CE62 9424 9B00 6810 7C5A E8C5 3BD3 0DF7 9E04 1511 233E 9A52 B8B0 FD65 CFCB
8B30 1384 CF3D 8323 444F 51F0 F6EE 177B 79DC"
```

A Macrovision FLEXnet floating license file contains information about the license SERVER, the DAEMON required to authorize the feature, and a line for each product FEATURE you are authorized to execute.

The SERVER Line

The first line is a SERVER line; it spells out which computer on the network is the license server. The license server is a network resource that will manage the features for all users of ModelSim products. The SERVER line includes the server's hostname (the server's network identification - for Windows, check the Network properties Identification tab), hostID (a unique serial number), and a port number. The hostname and port number may be changed in a license file, but any change to the hostID will invalidate the license. If the host is a Windows machine, the hostID is the FLEXid security key number or the machine's Ethernet ID. The possible security key numbers include: 6-xxxxxxxx or 7-xxxxxxxx for Sentinel keys; 8-xxxxxxxx for Dallas keys; 9-xxxxxxxx for Aladdin USB keys.

Note

Dallas key IDs (8-xxxxxxxx) must be upper case. Aladdin USB key IDs (9-xxxxxxxx) must be lower case.

See Licensing for information on how to locate a server or key ID.

The DAEMON Line

A DAEMON line specifies the name of the license daemon and the locations of the daemon and options files it will use. This is the full path to the mgcld daemon. In the example file, the UNIX "./" means "look in the current directory". This is the directory in which the server was started. If the server is to be started from another directory, the full path to the *mgcld* and *options* files would need to be added to this line.

For example,

```
DAEMON mgcld /usr/mti5.8/sunos5/mgcld \
/usr/mti5.8/sunos5/options
```

Note

The "options" line is only necessary if you are using a FLEXnet options file.

The INCREMENT Line

An INCREMENT line describes how many licenses ("tokens") are available; it contains the feature name, daemon required, most current build date authorized to run, token expiration date, number of tokens for the feature, license code, and a checksum.

If an INCREMENT entry is too long to fit on a single line, a backslash (\) appears at the end of the line. A UNIX system interprets that as joining the next line with the current line (that is, treating both lines as one, without a linefeed or carriage return). Therefore, never delete a backslash at the end of a line when you are transcribing a license file. Similarly, do not insert another character after a backslash.

Feature Names

The names on the feature lines in the license file correspond to particular functions in ModelSim. The ’_c’ suffix denotes a license file that uses the MGCLD daemon. The ’qh’ and ’msim’ prefixes denote license files that were generated by Mentor Graphics.

Table 1-7. Feature Names in the ModelSim SE License File

Feature name	Description
msimcdebug	Enables C debugging.
msimdataflow	Enables dataflow functionality.
msimhdlmix	Second license for mixed simulation, regardless of language.

Table 1-7. Feature Names in the ModelSim SE License File (cont.)

Feature name	Description
msimhdlsim	Language Neutral License (LNL) simulation; can act as either VHDL or Verilog.
msimsystemc	Enables SystemC simulation.
qhsimvh	Enables VHDL simulation
qhsimvl	Enables Verilog simulation
msimcompare	Enables simulation results comparison; waveform compare.
msimcoverage	Enables code coverage functionality.
msimprofile	Enables code profiling functionality.
msimviewer	Enables the GUI
txanalysis	Enables transaction viewing

Finding License Features for Your Site

A list of features for your site is available on the SupportNet web site at the following URL:

http://www.mentor.com/supportnet/licenses

This displays the Licensing tab of your "My Account" page.

- To find your current license file, click the link for "Authorization codes."
- To view the license feature by product, click the link for "License reports" and generate the report.

Mentor Graphics Install

The following is a quick reference resource on how to install Mentor Graphics software using the Mentor Graphics Install program.

1. Order software licenses from Mentor Graphics.

Note

To fully enable automatic product selection by licenses, set up your software licensing environment before running the Install program. Refer to the *Licensing Mentor Graphics Software* manual.

2. If you have previously installed the Install program, change directory (cd) to the directory containing the Install program and run it. If this is your first time installing Mentor Graphics products, begin by installing the Install program.

   a. Mount the CD-ROM.

   b. From the top level of the CD-ROM, invoke install.<*platform*>.

   Either method displays the Mentor Install wizard shown in Figure 1-1.

Figure 1-1. Installation Wizard (First Screen)

Tip: After the Mentor Graphics Install program displays the wizard, instructions for performing each of the following tasks are available in the online help.

3. Click the icon next to Install Products on the first screen.
4. Read the Mentor Graphics Licensing Agreement and click Agree to accept.
5. In the Source and Target screen, select the source and target for your installation and click Next.
6. In the Releases window, select the releases to install and click Next.
7. In the Product Selection window, select the products to install and platform and click Next.
8. In the Confirm Selections window, confirm your product selections and click Install.

Troubleshooting Common Errors

Table 1-8 lists some of the more common errors encountered during installation.

Table 1-8. Troubleshooting Common Errors

Error #	Problem	Result	Solution
CP0008	The current version of the Install program on your system is out of date. There is a newer version of the Install program available on the latest installation media.	You must update your version of the Mentor Graphics Install program from the latest installation media.	Exit the Mentor Graphics Install program and refer to either the web-based "Installation Instructions" on the SupportNet download web page, or the CD booklet available with all installation media.
CP00030	The Mentor Graphics Install program encountered an error while trying to read the startup data.	The Install program will not proceed further.	The installData.xml.gz file needs to be in the Mentor Graphics Install data directory. On UNIX this file name is case sensitive.
IPW112	An error occurred when the Install program tried to open a script archive file.	The Installation script archive could not be found, therefore the Install program will not proceed.	If you are installing source from CD-ROM, make sure the Volume 1 CD-ROM is available and click **Retry**. Selecting **Cancel** will cancel the installation.
IPW113	An error occurred when the Install program tried to open a script archive file.	The Installation script archive could not be found, therefore, the Install program will not proceed.	If you are installing source from CD-ROM, make sure the Volume 1 CD-ROM is available and click **Retry**. Selecting **Cancel** will cancel the installation.
IPW114	A file write error occurred.	The Install program cannot write to the specified file.	The file (or directory the file is in) may not have Write permissions. Verify that permissions are open on the file/directory and select **Retry** to continue the installation. Selecting **Cancel** will cancel the installation.
IPW116	An error occurred while attempting to write to a file.	The Install program could not write to the specified file and installation is being cancelled.	Verify the path to the file. If the path was correct, contact Customer Support and provide them with the Details and Error #IPW116.

Table 1-8. Troubleshooting Common Errors

Error #	Problem	Result	Solution
IPW118	An error occurred while attempting to write to a file.	The Install program could not write to the specified file and installation is being cancelled.	Verify the path to the file. If the path was correct, contact Customer Support and provide them with the Details and Error #IPW118.
IPW122	A file write error occurred.	The Install program cannot write to the specified file.	The file (or directory the file is in) may not have write permissions. Verify that permissions are open on the file/directory and select **Retry** to continue the installation. Selecting **Cancel** will cancel the installation.
IPW123	A file read error occurred.	The Install program cannot read the specified file.	The file (or directory the file is in) may not Read permissions. Verify that permissions are open on the file/directory and select **Retry** to continue the installation. Selecting **Cancel** will cancel the installation.

Troubleshooting Common Problems

Table 1-9 shows some frequently encountered problems, with their possible causes and solutions. For additional help, consult applicable vendor manuals or contact the Mentor Graphics SupportCenter.

Table 1-9. Troubleshooting Common Problems

Problem	Possible Cause	Solution
"Can't open display" or similar message received on attempt to execute first remote client.	No value set for the DISPLAY environment variable.	Set the DISPLAY environment variable. In a Bourne or Korn shell, type: $ DISPLAY= <your_X_display_name>:0.0 $export DISPLAY
	DISPLAY environment variable lacking ":0"	Reset the DISPLAY environment variable so it includes the ":0" syntax.
	Display machine not permitting access.	Open a new command window on the display machine and run the **xhost +** command. Refer to the xhost(1) manual page for workstations and the vendors documentation for terminals and PCs.
	X display's name not known to X host.	Add name to host database.
During Product Removal, Product or Release is not visible in the Install program.	May not be pointing at the appropriate Target location.	Verify that correct Target location has been indicated on Product Removal Selection window.
Unable to click in a checkbox.	The sensitivity setting for your mouse is set incorrectly for this Java application.	Decrease the sensitivity of your mouse (so the mouse moves slower) in your Control Panel. Refer to technote mg48980 in SupportNet.

Table 1-9. Troubleshooting Common Problems

Problem (cont.)	**Possible Cause (cont.)**	**Solution (cont.)**
Unable to install an older version of the Mentor Graphics Install program	A newer version of the Install program already exists.	Run **setup.exe -force**. The **-force** option enables you to install an older version of the Install program over the top of a newer version.
Unable to install the Mentor Graphics Install problem in a new directory.	A version of the Install program already exists at the default directory.	Run **setup.exe -target** <*path*> The -target option enable you to install the Install program to a specified directory.
Unable to uninstall the Mentor Graphics Install program.		Navigate to the directory where Install.exe is located. 1. Open the *bin* directory and double-click on **Uninstall.exe**. This does not fully remove all of the Mentor Graphics Install program, but it does remove the registry entries so that the install program can be re-installed. 2. Delete the *install* directory. This removes all targets.

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End-User License Agreement

The latest version of the End-User License Agreement is available on-line at:
www.mentor.com/terms_conditions/enduser.cfm

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